



Implementation of National Satellite Based Data Archive (NASABADA) in Turkey

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NASABADA is a unique platform aiming to develop main geographical information system and remote sensing layers that are often used in areas such as: agriculture, forest, climate, hydrology, transportation, meteorology, and energy. Its establishment has started at the second half of the year 2009 in Turkey by Beray Engineering Company, and focused on especially Turkey domain as an individual study area. In general, examples of the satellite-based data-oriented production are usually on global scale and focuses on a specific satellite. However, the products in NASABADA are consistent with Turkey's geographical conditions, and they are supported by ground information and a time series evaluation as well. Moreover, while developing those algorithms priority is using the national resources and providing a know-how for national information infrastructure. Using different features of satellite data and blending them with ground data to develop and provide the results to the end users of these products is one of the main goals of NASABADA Project. In the first stage of NASABADA, development of 7 products is planned, but the number of products is aimed to be around 20 in the future. The explanation of the pioneering 7 products which their preliminary versions would be published in the near future are as follows: albedo, snow cover, snow water equivalent, cloud, surface temperature, vegetation indices, and daily sun radiation maps. Unique architectural design, algorithms including fuzzy logic and ANN methods have been used for image processing and automatic analysis of large amounts of data on a high-tec file and web servers hardware infrastructure. The final aim of NASABADA is developing a data infrastructure for optimal access to those huge amounts of observational data by end users with tools available to make online processing of data and only gathering required images other than raw data. We discuss the development of the NASABADA data infrastructure, its current status, and plans for future enhancements. Descriptions of complete NASABADA data and 7 products and metadata information are also included.